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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/872,848 | 06/01/2001 | Inyup Kang | 000303 | 3695 |
| 23696 | 7590 | 01/26/2006 | EXAMINER | |
| QUALCOMM, INC 5775 MOREHOUSE DR. SAN DIEGO, CA 92121 | | | KIM, KEVIN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2638 | |

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 09/872,848 | Applicant(s) KANG ET AL. | |
| | Examiner Kevin Y. Kim | Art Unit 2638 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5 and 8-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15 is/are allowed.
- 6) ☒ Claim(s) 3-5 and 8 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 3-5 and 8 is withdrawn in view of the newly discovered reference(s) to US Pat. No. 6,009,118 to Tiemann et al. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 3-5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tiemann et al (US Pat. No. 6,009,118).

Claim 3.

Tiemann et al discloses a method of searching for a sync sequence (see Fig.4 and 6), comprising;

shifting a first string of samples of a received signal into a shift register (33) according to a clock signal;

subsequent to the shifting the first string, disabling the clock signal (in that the first string of samples remain for a correlation period);

calculating a first correlation based on at least a first substring of the first string of samples (see Multiplier 1 in Fig.6);

calculating a second correlation based on at least a second substring of the first string of samples (see Multiplier N in Fig.6);

enabling the clock signal (in that a new sequence is inputted into the shift register, see col. 12, lines 2-4);

calculating a third correlation based on at least a first substring of the second string of samples (see Multiplier 1 in Fig.6);

calculating a fourth correlation based on at least a second substring of the second string of samples (see Multiplier N in Fig.6);

calculating a first coherent sum based on the first and second correlation results (see col. 12, lines 4-7, i.e., the correlation results from the multipliers 1-N for the first string are coherently summed in the coherent accumulator 232);

calculating a second coherent sum based on the third and fourth correlation results (see col. 12, lines 4-7, i.e., the correlation results from the multipliers 1-N for the second string are coherently summed in the coherent accumulator 232); and

the first and second coherent sums are non-coherently summed at the non-coherent accumulator 30. See col. 12, lines 7-13.

Claim 4.

Fig.6 shows that the first correlation result is the multiplication result of the first substring and corresponding portion of the code vector. Likewise, the second correlation result is the multiplication result of the second substring and corresponding portion of the code vector. And the portion of the code vector (N-1) corresponding to the first

correlation result is adjacent to the code vector (N) corresponding to the second correlation result.

Claim 5.

Each of the first, second, third and fourth correlation results is based on testing a first search hypothesis. See col. 12, lines 22-25 describing that the correlations are obtained for a particular code, code offset and Doppler frequency, i.e., based on “a first search hypothesis” and another set of correlations are obtained for another code, code offset and frequency.

Claim 8.

Tiemann et al discloses a searcher (see Fig.4 and 6) comprising:

a search clock for enabling and disabling a clock signal (not shown but present to shift data into the shift register 33);\

a shift register (33) to receive strings of samples of a received signal according to the clock signal and output different sample vectors at successive transitions of the clock signal;

a non coherent accumulator (39);

a coherent accumulator (232) to produce a first coherent sum before a disabling of the clock signal and a second coherent sum after disabling of the clock signal (see the ground of rejection in connection with claim 3); and

the non coherent accumulator generates a non coherent sum based on the first and second coherent sums. See col. 11, line 55 ~ 12, line 31.

Art Unit: 2638

Allowable Subject Matter

4. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 11-15 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KEVIN KIM
PATENT EXAMINER